National Weather Service
Aberdeen, South Dakota

January 2012

Winter Weather Products

With winter finally here, we here at the National Weather Service in Aberdeen would like to take this time to refresh our customers with some of the more common winter weather products that we issue and the criteria needed for product issuance.

Watch products: Conditions are expected in 12 to 48 hours

Blizzard: Issued when conditions are favorable for a blizzard event to meet or exceed Blizzard Warning criteria.

Winter Storm; Issued when conditions are favorable for a winter storm evening (heavy sleet, heavy snow, ice storm, blowing snow or a combination of events) to meet or exceed warning criteria.

Warning products: Conditions are ongoing or imminent

Blizzard: Sustained winds or frequent gusts of 35 mph or more with falling and/or blowing snow, frequently reducing visibility to 1/4 mile or less for 3 or more hours.

Winter Storm: Winter weather event having one or a combination of heavy snow, heavy snow and blowing snow, snow and ice, snow and sleet, sleet and ice, or snow, sleet and ice meeting or exceeding warning criteria for at least one element. Heavy snow is defined as 6 inches or more in 12 hours, or 8 inches or more in 24 hours.

Ice Storm: Ice accumulation of 1/4 inch or more.

Advisory products:

Winter Weather: Sustained wind or frequent gusts between 25 and 34 mph with falling and/or blowing snow, reducing visibility to less than 1 mile but more than 1/4 mile for 3 or more hours. Winter weather event having one or a combination of snow, snow and blowing snow, snow and ice, snow and sleet, or snow, ice and sleet meeting or exceeding advisory criteria for at least one element, but remaining below warning criteria. Advisory snowfall is defined as 3 to 5 inches over 12 hours.

Inside this issue:

Building a Weather Ready Nation

More than 1,000 lives were lost this past year to extreme weather, including about 550 from tornadoes. And the economic losses are equally staggering—at least 12 separate weather disasters, each with $1 billion or more in economic losses.

These impacts moved NOAA's National Weather Service to launch an initiative called Weather-Ready Nation. The goal is to improve America's readiness for weather events and save more lives and livelihoods.

NOAA Administrator Dr. Jane Lubchenco called Weather-Ready Nation a shift in mindset. "Severe weather threats can no longer be looked at as inconveniences, or viewed fatalistically. Victims don't have to be caught 'in the wrong place at the wrong time'," she said.

"Severe weather represents a very real threat to public safety that requires additional robust action," said Jack Hayes, director of NOAA's National Weather Service. "The increasing impacts of natural disasters, as seen this past year, are a stark reminder of the lives and livelihoods at risk."

In partnership with other government agencies, researchers, and the private sector, the National Weather Service is charting a path to a weather-ready nation through:

- Improved precision of weather and water forecasts and effective communication of risk to local authorities;
- Improved weather decision support services with new initiatives such as the development of mobile-ready emergency response specialist teams;
- Innovative science and technological solutions such as the nationwide implementation of Dual Pol radar technology, Integrated Water Resources Science and Services, and the Joint Polar Satellite System;
- Strengthening joint partnerships to enhance community preparedness;

Working with weather enterprise partners and the emergency management community to enhance safety and economic output and effectively manage environmental resources.

What a Difference a Year Makes

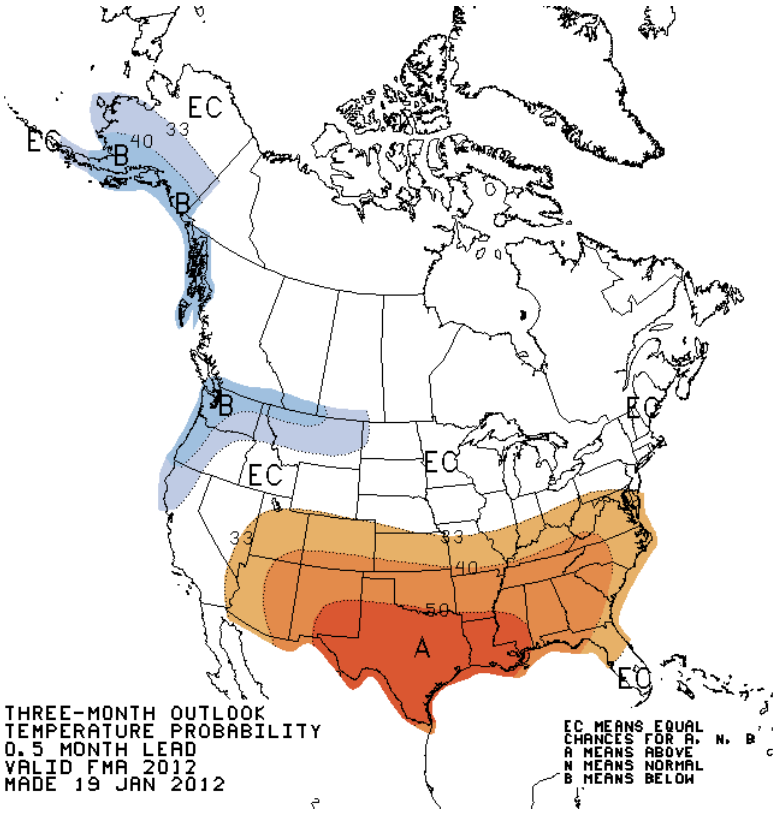
As those living in the Dakotas are finding out, the old adage "If you want a change in the weather, "wait an hour" or in the case a year, holds true.

Last year, by the end of January the forecast office in Aberdeen had already recorded 43.1 inches of snowfall. Conversely, so far this year we have only recorded 4.8 inches of snowfall (as of January 24th). Below is a comparison of snowfall so far this year compared to snowfall last year.

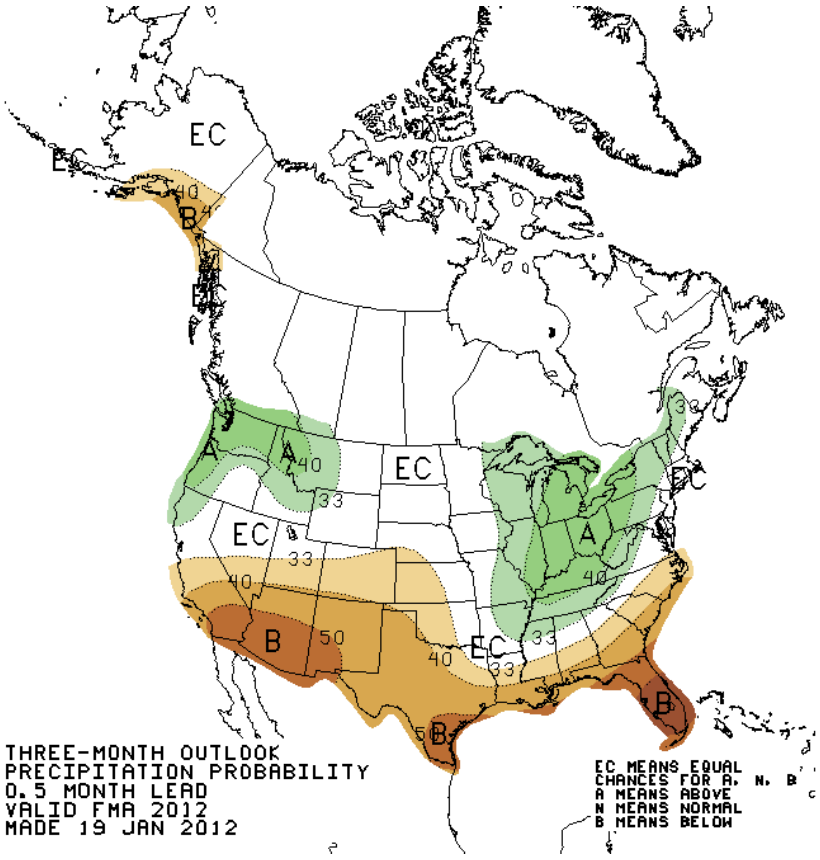
City	Nov '10-Jan '11	Nov 11-Jan '12 (so far)
Aberdeen	43.1 inches	4.8 inches
Watertown	51.4 inches	10.1 inches
Mobridge	35.4 inches	6.1 inches
Pierre	31.4 inches	15.0 inches

Is the lack of snow for the first half of the winter any sign of how the rest of the winter will go? No, not really. The average snowfall for the February and March time frame varies from 12 to 14 inches. Plus, residents know that there is a lot of winter left. But after the past couple of winters in the northern plains, many are enjoying the relatively dry winter so far.

Seasonal Outlook—February through April



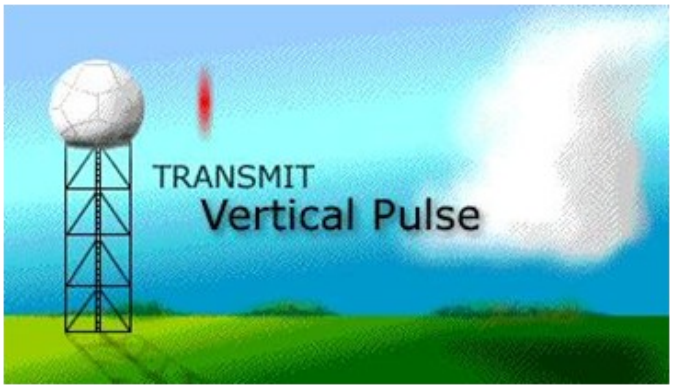
Temperature



Precipitation

New Radar Coming To Aberdeen

This coming summer, WFO Aberdeen is scheduled to get a new radar system. The new system utilizes "Dual Polarization" or "Dual Pol" technology. Currently, the radar transmits horizontal pulses. This is sufficient enough to pick up on cloud water, cloud ice, rain, sleet, snow and hail. Dual Polarization radars transmit a vertically oriented pulse in addition to the horizontal pulse. This gives a much better picture of hail size and rain/snow transition regions in clouds. It will also lead to better accuracy with respect to rain and snow rates and the size of hail within the cloud. Dual polarization radar will also pick up debris that is suspended in the air. This would be the first time in history that a Meteorologist will be able to tell when a tornado is on the ground just by looking at the radar.



The new radar is scheduled to be installed from July 30 to August 12. We will have access to the other NWS radars in South Dakota and North Dakota during this time, but should severe weather develop, we will become even more dependent upon our trained spotters.

2012 Spotter Talks Now Being Scheduled

As January draws to a close, it is once again time to begin to turn our attention to spring and early summer, and the severe weather that is at times associated with it. Skywarn spotter training sessions are now being scheduled across the area. This training, provided for free by the National Weather Service in Aberdeen, and hosted by your county Emergency Manager, is a 1 ½ hour session on severe weather spotting, thunderstorm identification, and severe weather safety. If you are interested in attending a spotter training class, please see the following web-page: http://www.crh.noaa.gov/abr/?n=skywarnschedule.php. On that page you will find the "where's" and "when's" for the training classes.

For further information, please contact either your county Emergency Manager, or Dave Hintz (Warning Coordination Meteorologist) at (605) 225-0519.

Early January Record Temperatures

Records set from January 3rd through January 6th

Tuesday, 3 January 2012

Location	Record Temperature	Previous Record	Year
Mobridge, SD	58	57	1962
Sisseton, SD	48	47	1962

Wednesday, 4 January 2012

Location	Record Temperature	Previous Record	Year
Aberdeen, SD	54	47	1921
Mobridge, SD	57	46	1964
Sisseton, SD	49	47	1987
Watertown, SD	47	45	1987

Thursday, 5 January 2012

Location	Record Temperature	Previous Record	Year
Aberdeen, SD	63*	46	1935
Mobridge, SD	55	49	1939
Pierre, SD	66	54	1983
Sisseton, SD	59	47	1984
Watertown, SD	57	43	1958
Kennebec, SD*	70*	56	1940
Timber Lake, SD	58	50	1983

Friday, 6 January 2012

Location	Record Temperature	Previous Record	Year
Aberdeen, SD	49	47	1983
Watertown, SD	45	43	1963
Sisseton, SD	48 Tied	48	1933

Numerous record high temperatures were broken across central and northeast South Dakota along with west central Minnesota throughout the week. Some of the records were broken by as much as 12 to 17 degrees and had been held for 80 to 90 years. Aberdeen surpassed their all-time record high for January by 3 degrees with 63 degrees on Thursday, January 5th. Kennebec tied their all-time record high for January with 70 degrees on January 5th. One other interesting thing to note is that both Sisseton and Watertown broke their record high on Friday January 6th shortly after midnight.

Wind Chill Chart

Wind (mph) \ Temperature (°F)	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45	26	29	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98

Frostbite Times: 30 minutes | 10 minutes | 5 minutes

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T= Air Temperature (°F) V= Wind Speed (mph)

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OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

www.weather.gov/aberdeen

A snowflake is winter's butterfly.

~ Hero Arts